LIABILITY FOR FAILURE TO ACQUIRE OR USE COMPUTERS IN MEDICINE

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Abstract

The traditional legal rule used to measure the adequacy of a provider's delivery of care is the custom of other providers in the defendant's locality. Many courts have expanded the definition of locality, and several recent decisions have adopted the rule of reasonable prudence as the measure of what custom should be. These developments suggest that courts may impose liability on providers for patient injuries caused by the absence of medical computers even where the custom of most other providers would not have required computer use. A judicial finding of liability apart from custom will depend upon a balancing of factors such as availability, likelihood of risk reduction, and cost.

Introduction

"Computers can help the physician diagnose illness and prescribe the best treatment. They can alert him to possible interactions between drugs, monitor patients, perform and enter test results, and retrieve medical information. Where time is critical to patient safety, computers can save minutes, or even hours, in providing a doctor with data necessary to an informed decision."[1]

The purpose of this memorandum is to consider the likelihood of provider liability for injuries caused by the absence of computers in the delivery of health care. Provider liability will depend upon a judicial determination of whether the standard of conduct for the medical profession requires the use of a computer in the medical context in question. The central theme of this memorandum is that the traditional legal rule governing the measurement of a provider's conduct has eroded in several ways, including redefinition of the locality rule and the extension of the concept of "reasonable prudence" to medical care: these trends suggest that courts will sooner or later impose liability for a hospital's or physician's failure to use a computer where its application would have prevented an injury.

Medical Negligence and the Standard of Care

The standard of conduct required of a provider in order to fulfill an imposed duty is usually the major focus of a malpractice action because the standard defines the parameters of duty. That is, the standard of conduct is the measure of care by which breach of a duty is established if the defendant provider failed to provide such care. The traditional standard of conduct which a provider owes to its patients is for that physician or hospital to exercise the degree of care, skill, and diligence used by other providers similarly situated,[2] or what is commonly called customary practice.

The identity of the comparative group has traditionally been drawn from those doctors or hospitals in a provider's home community. This "locality rule" was developed in the context of malpractice litigation involving individual physicians, and was later extended to hospitals.

However, a substantial number of jurisdictions have modified or completely replaced the geographic concept of the locality rule.[3] Many courts have adopted the standard of care that is customary within communities or localities similar to that of the defendant provider.[4] Other courts have expanded the spatial reach of the rule to include nearby communities readily accessible to the patient, in effect recognizing the change in geographical accessibility wrought by modern transportation.[5] Some jurisdictions have adopted and applied a national standard, which often recognizes differences among hospitals with respect to size, services, and equipment, as well as differences according to specialization for practitioners.[6] Finally, a few courts have revived a theory imposing liability for the absence of technical precautions deemed reasonably prudent, regardless of the prevailing custom among similar professionals or institutions.[7]

Application of the various forms of the locality rule to medical situations where computers were not used and would have made a difference will result in the judicial imposition of different sets

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of responsibilities on different kinds of hospitals and physician specializations. For example, where computer use becomes prevalent among large well-equipped hospitals, a national standard probably would not require that small hospitals with limited resources also use computers. Furthermore, where the use of computers for particular medical conditions becomes standard among doctors who practice at large hospitals located in urban areas, other physicians with access to those hospitals will probably be expected to use those facilities when appropriate.

Medical Computers and Reasonable Prudence

Several courts have recently demonstrated a willingness to discard custom as the only means of determining medical negligence. These decisions have substituted the concept of the reasonably prudent provider, a rule similar to those used in ordinary negligence law, for that of the custom of the provider in good standing as the measure of the requisite standard of care. These decisions could portend a trend which will alter substantially the application of negligence law to providers for the absence of computers in medicine. The remainder of this memorandum considers the creation and application of this doctrine in detail.

The concept of reasonable prudence was first expounded by Judge Learned Hand in 1932 in the case of The T.J. Hooper.[8] The Hooper doctrine was applied to a situation where the owner of two tugboats was held negligent in the sinking of barges under tow because of his failure to equip the tugs with radio receivers. The court reasoned that the captain would have heard broadcast weather reports concerning an approaching storm and, like any prudent sailor, he would have put into a safe port. The storm and destruction of the barges occurred in 1928, at a time when few tugboat companies provided radio transmitters or receivers for their boats. Although the court found that there was no custom at all regarding the use of radios, it concluded that even where the custom was not to provide radios, that custom would not have relieved the tugboat owner of liability because entire professions may ignore or too slowly adopt newly available safety devices. Thus Hooper established the proposition that courts will impose liability for failure to take precautions even where such precautionary techniques may be customarily ignored.

The leading case for imposition of this standard on hospitals is Darling v Charleston Community Memorial Hospital,[9] where the hospital and the attending physician were sued for allegedly negligent treatment which resulted in the amputation of the patient's leg. The Illinois Supreme Court held the hospital liable for failure to require consultation and for providing inadequate care. The court specifically held that two sets of guidelines--the standards of national medical associations and the hospital's own bylaws--now serve much the same function as did evidence of custom. In going beyond this rejection of the locality rule, the court applied the standard of care formula used in ordinary negligence law. In doing so, the court referred to the Hooper premise that even universal disregard of necessary safety measures won't allow an industry to avoid liability for their omission.

The development of this ordinary negligence approach clearly increases the likelihood that doctors and hospitals might be held liable for their failure to use or purchase computers. A court applying the Darling standard could find that failure to use computers for a particular purpose exposed the patient to an inexcusable risk of harm, even where such use was uncommon.

In Helling v Carey,[10] ophthalmologists were held to be negligent as a matter of law in failing to administer a glaucoma test to a patient for whom such tests were not customary. During the trial the testimony of medical experts for both the patient and the defendants established that the standards of the profession for that speciality in the same or similar circumstances did not require routine pressure tests for glaucoma upon patients under forty years of age. The patient, who was thirty-two years old when the glaucoma was finally diagnosed, had received care from the defendants for more than five years. The court cited language from Hooper in finding that reasonable prudence required the timely application of the pressure test.

The court buttressed its opinion by noting that the test is relatively inexpensive, easy to administer, accurate in detecting the disease, and is otherwise harmless where the physical condition of the eye permits its application, and further explained that the "grave and devastating" result of glaucoma is more than enough justification for requiring the test regardless of professional custom.[11]

The same court, the Supreme Court of Washington, reemphasized and explained the importance of its ruling in Gates v Jensen[12] and Keogan v Holy Family Hospital.[13] Gates concerned the detection of glaucoma, while Keogan addressed a provider's liability for failure to administer an electrocardiogram test in the context of an apparent cardiac event. Once again, the court focused on the importance of the relatively low cost of the tests and the ease of their administration. The court conceded that such tests need only be used where alternative diagnostic procedures were inconclusive or where some abnormality in the patient's condition gave warning of the existence of some undetected problem. When the condition of the patient does indicate the necessity for further examination, said the court, reasonable prudence requires the application of the tests.[14]

These decisions illustrate the importance of several questions governing imposition of liability for the lack of reasonable prudence. These questions include whether the technology in question is available, what kind of an impact this technology would have on the health of particular patients, and what the technology would cost. Each of the decisions discussed above contained a judicial balancing of availability, impact, and cost, and

thus they provide the basis for a discussion of the relevance of Hooper and its progency to computerized medical technologies.

Availability

Courts have approached the issue of availability as two distinctly difference questions, including the usefulness of the technology and the accessibility of the technology. In an early case concerning the use of radar in aircraft, a court refused to find the aircraft operator negligent because of evidence that radar systems available at the time of the aircraft accident were operationally unsatisfactory.[15] The case illustrates the proposition that courts may decline to consider equipment available where such devices are still in the experimental stage of development. Although computers may be used experimentally for particular purposes by some physicians and hospitals, courts are unlikely to impose use on other providers until a system has proven itself capable of fulfilling the particular task for which it was designed.

The separate issue of accessibility focuses on the availability of the equipment to a particular user. Thus, for example, where a doctor may not own a computer, but nevertheless has access to one in a hospital or medical center, that physician will under proper conditions have an affirmative duty to use the available equipment. Under the traditional theory of malpractice, a physician may be held negligent for any failure to use equipment available to him in his own locality if other physicians in good standing would have done so. Furthermore, where particular jurisdictions have expanded the definition of "same locality" to include institutions contining superior medical facilities, physicians could be required to seek computer services for their patients, even though this may require transfer of the patient.

Certificate of need legislation is of critical importance in determining a provider's access to computer technology.[15a] The program is designed to review and determine the need for major capital investment in medical equipment. State regulations indicate what factors will be used to determine need. A hospital must receive a certificate of approval before it can make the desired expenditure. However, that legislation does not articulate a particular standard of conduct in terms of patient care, although the ability of a provider to obtain equipment or provide services clearly has an impact on that standard of care which will be provided by the institution. Thus, where a hospital seeks to obtain a computerized diagnostic device, and its absence for a certificate of need if denied, subsequent patient litigation over injuries allegedly sustained because of the absence of that equipment may well fail. It is quite likely that courts will examine a state's decision concerning the certificate of need in a context similar to any other specific provisions of a regulation actually articulating a standard of conduct. This approach would typically find the hospital to be in compliance with that standard. However, the possibility of a requirement for patient transfer remains where the state's reasoning behind the CON denial includes the existence of an adequate supply of this equipment within the hospital's service area, a justification that is frequently applied.[16]

Reduction of Risk to Patient

Courts may recognize liability as a matter of law for failure to use a computer where application of that equipment in all likelihood would have reduced the risk of ill health for the patient, even though the certainty of an improvement in care is not present. Three examples of the kinds of applications which might improve patient care include the use of computers in diagnosis, selection of therapy, and delivery of therapy.

Diagnosis is perhaps the most important application vulnerable to rule of reasonable prudence. Early, accurate diagnoses improve patient outcomes dramatically, and computer systems already serve physicians in making diagnoses through provision of information and memory enhancement. If a physician does not ask about an issue crucial to a correct diagnosis, and a computer system available to the physician would have asked the question, the computer's use clearly would have increased the likelihood of a correct diagnosis. Under such circumstances, a physician would be liable for failure to apply the computer's expertise. One major limitation on application of the Hooper doctrinw in diagnostic situations concerns the extent to which physicians can or should be expected to use computers even though the providers should have detected the problem in their exercise of ordinary care and skill. This situation has led one author to conclude that where common illnesses are concerned, incorrect diagnoses would be the result of the physician's personal error, rather than of any failure to use a computer.[17]

Computers can of course perform tasks which physicians cannot perform alone. Interpretation of electrocardiograms, generation of computed tomographic scans, and measurment of a variety of laboratory tests are all directly possible because of the advances in computers. A judicial finding of negligence as a matter of law seems very likely where computers can diagnose and the physician cannot, given the analogy to the holding in Helling v Carey. Thus where computer performance of diagnostic tasks is superior to that of the physician, a finding of negligence for failure to use is especially likely where the particular computer-assisted task would have affected patient outcome.

Selection of the proper form of treatment also involves a physician's judgment and memory, and the role of computers seems similar to that in diagnoses in that computer applications can master the flood of information about new chemical therapies, including both the suggestion for use of newly available drugs and warnings about the potential for negative interactions among different drugs. The main limitation in this kind of application is ascertaining the physician's state of mind when prescribing the treatment. Where the physician knew about a particular therapy, but rejected its use, courts are unlikely to impose liability for

failure to use a computer which would have reminded the physician of the existence of the therapy. On the other hand, if the physician did not know of the particular form of treatment, but would have been reminded of its existence through use of the computer, courts will be more willing to impose liability for failure to use the computer. The better course for the physician is to document his state of mind in the appropriate medical records.

Computers also serve directly to regulate the delivery of a growing number of medical procedures. For example, computers which monitor or stabilize patients during or following surgery are frequently used in hospitals to protect patients at risk. It seems likely that physicians who have access to such systems will be expected to use them where their application will improve the likelihood of patient survival significantly. Where the cost of these devices is not prohibitive, courts may require providers to purchase such equipment in order to meet the required duty of care.[18]

Cost

Cost of equipment is the last major factor considered by the courts. While the present cost of computers is still relatively high, the declining cost of computer hardware and the availability of an increasing variety of software packages promise to lower the cost of more and more computer applications in the future. The courts will in all likelihood continue to engage in a balancing of interest. Although only a few courts have evinced a willingness to impose a higher standard of care on hospitals than on physicians, there may be judicial justification for imposing strict liability for a hospital's use of equipment while imposing a lesser burden on physicians.[19] This distinction seems appropriate given the growing acceptance of the perspective that a hospital's primary function is to provide services and equipment, while physicians are expected to provide professional skills.[20] In particular, courts could expand the standard of care concerning a hospital's failure to provide certain kinds of facilities where the institution was otherwise capable of acquiring that equipment.

Courts will also examine the broader impact of imposition of requirements for equipment. Courts may find, for example, that while requiring computers for diagnostic purposes in hospitals may reduce risk of injury, the benefits probably would be offset by the increased hospital costs which would accompany use. In the alternative, courts could pursue a regional perspective in finding hospital liability where the institution, itself without computerized diagnostic of therapeutic technologies, failed to transfer the patient to a hospital possessing the necessary equipment.[21]

Conclusion

The erosion of the traditional rule governing the standard of care required of providers has increased the likelihood that courts will find liability where providers fail to make use of computers in medicine, given that such use would have reduced the risk to a patient's health. Although the continued viability of the locality rule in some jurisdictions will preclude recognition of such a duty in those states, the modern trend to redefine the spatial meaning of the locality rule promises the imposition of a use requirement for some kinds of providers.

The application of the rule of reasonable prudence in medicine is of special interest because that rule explicitly relegates custom to a lesser role as one of several factors used to determine medical negligence.

The key question in the application of the Hooper rule to medical computers is whether a judicially-mandated change in medical custom is desirable as determined by a balancing of the expenditures and the health benefits of the acquisition and use of the computers. Medical computers are of course in a state of developmental flux, and while their use can reduce the risk of injury, the precise amount of risk reduction varies with the character of the equipment, its instructions, and its users. Hospitals and physicians inhabit a zone of transition from purely experimental computer use to regular diagnostic and therapeutic application. As the transition occurs, some courts and counsel will probably attempt to apply the lessons of Hooper and its progeny: these application may become a legal trend where societal and institutional costs are low and patient risks can be reduced significantly.

Notes

1. Petras and Scarpelli, Computers, Medical Malpractice, and the Ghost of the T.J. Hooper 5 Rutgers J. of Computers and the Law 15 (1975)

2. See Pearson, Role of Custom in Medical Malpractice Cases 51 Ind. L. J. 528 (1976)

3. See generally Annot., 99 A.L.R.3d 1133 (1980)

4. Dornette, The Legal Impact of Voluntary Standards in Civil Actions Against the Health Care Provider 22 N.Y.L.S. L. Rev. 925, 937 n. 56 (1977)

5. Pederson v. Dumouchel 72 Wash.2d 73, 431 P.2d 973 (1967)

6. Dickinson v Mailliard 175 N.W.2d 588 (Iowa 1970)

7. See notes 10-14 and accompanying test infra.

8. 60 F.2d 737 (2d Cir. 1932); cert. denied 287 U.S. 662 (1933)

9. 50 Ill.App.2d 253, 200 N.E.2d 149 (1964); affirmed 33 Ill.2d 326, 211 N.E.2d 253 (1965); cert. denied 383 U.S. 946 (1966)

10. 83 Wash.2d 514, 519 P.2d 981 (1974)

11. Helling, supra n. 10 at 983

12. 92 Wash.2d 246, 595 P.2d 919 (1979)

13. 95 Wash.2d 306, 622 P.2d 1246 (1980)

14. However, the court in Keogan suggested in dicta that the test was medically indicated under existing custom. See also Darling supra n. 9

15. 224 F.2d 120 (6th Cir. 1955); cert. denied 350 U.S. 937 (1956)

15a. Certificate of need legislation has been promoted by the federal government through the National Health Planning and Resource Development Act of 1974, as amended: Pub. L. No. 95-83, 91 Stat. 383 (1977) (Codified at 42 U.S.C. §§300k-300v (1979))

16. See, e.g., Irvington General Hospital v Dept. of Health of the State of N.J. 149 N.J. Super. 461, 374 A.2d 49 (1977) (Factors include alternative availability of facilities, need for special equipment, impact on service, adequacy of financial resources, and sufficiency of manpower.)

17. Freed, Legal Aspects of Computer Use in Medicine 32 Law & Contemporary Prob. 647, 682 (1967)

18 This is particularly true where the cost of the equipment in question is below the minimum cost review provisions of a state's Certificate of Need law, an amount typically $150,000.

19. Kupuschinsky v U.S. 248 F.Supp. 732 (D.S.C. 1966)

20. Cf. Utter, J., Helling supra n. 10 at 984 (concurring opinion) (strict liability a better theory than reasonable prudence)

21. See, e.g., Blake v District of Columbia Gen. Hosp. (Sup. Ct. July 1981) (liability for failure to transfer to another facility which possessed a CT scanner) (rept. in 9 Health Lawyers News Report No. 8 (August 1981)